

Recovery Plan Action Status

Plan Name: Texas Trailing Phlox (*Phlox nivalis* ssp.*texensis*) Recovery Plan

Plan Status: Final

Plan Date: 28-Mar-95

Lead Agency: USFWS

Lead Office: Houston Ecological Services Field Office

(281-266-8282)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Texas trailing phlox (<i>Phlox nivalis</i> ssp. <i>texensis</i>)	1	11	Continue protective management at the Roy E. Larsen Sandyland Sanctuary	Ongoing Current	FY 1995 - FY 1999	FY 2013	Texas Nature Conservancy	Acquisition: Management Agreement, Management: Habitat Maintenance and Manipulation	Internal Technical Assistance	All costs are TNC.
Texas trailing phlox (<i>Phlox nivalis</i> ssp. <i>texensis</i>)	1	12	Provide immediate protection for existing habitat areas	Ongoing Current	FY 1995 - FY 1999	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, Private landowners, USFWS Regional Office 2	Management: General	Internal Field Assistance	BTNP; TNC; Temple-Inland; other PVT.
Texas trailing phlox (<i>Phlox nivalis</i> ssp. <i>texensis</i>)	1	131	Educate private landowners about Texas trailing phlox and Endangered Species Act	Ongoing Current	FY 1995 - FY 1999	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, Private landowners, USFWS Regional Office 2	Management: General	Internal Administrative, Internal Field Assistance, Internal Technical Assistance	ES costs = 1K, PVT costs = 1K.
Texas trailing phlox (<i>Phlox nivalis</i> ssp. <i>texensis</i>)	1	132	Inform & educate highway departments and utility companies	Ongoing Current	FY 1995 - FY 1999	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, Private landowners, USFWS Regional Office 2, Texas State & County Highway Departments	Management: General	Internal Field Assistance	ES costs = 1K, PVT costs = 1K, TXDOT costs = 1K.
Texas trailing phlox (<i>Phlox nivalis</i> ssp. <i>texensis</i>)	2	141	Determine landowner land use goals	Ongoing Current	FY 2006	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, Private landowners, USFWS Regional Office 2	Acquisition: Management Agreement	Internal Field Assistance	TNC; BTNP, Temple-Inland; other PVT.
Texas trailing phlox (<i>Phlox nivalis</i> ssp. <i>texensis</i>)	1	142	Develop & implement management plans for private lands	Ongoing Current	FY 2000 - FY 2004	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, Private landowners, USFWS Regional Office 2	Acquisition: Management Agreement	Labor type not yet selected	ES; TNC; Temple-Inland; other PVT.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Texas trailing phlox (Phlox nivalis ssp. texensis)	1	143	Seek landowner assistance with monitoring activities	Ongoing Current	FY 1995 - FY 1999	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, Private landowners, USFWS Regional Office 2	Acquisition: Management Agreement	Contract	ES; TNC; BTNP; TPWD
Texas trailing phlox (Phlox nivalis ssp. texensis)	1	144	Encourage establishment of stewardship agreements	Ongoing Current	FY 2000 - FY 2004	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, Private landowners, USFWS Regional Office 2	Acquisition: Management Agreement	Internal Administrative	TNC; BTNP; Temple-Inland; other PVT.
Texas trailing phlox (Phlox nivalis ssp. texensis)	1	15	Monitor natural populations	Ongoing Current	FY 1995 - FY 1999	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Research: Population Surveys	Contract	ES; TPWD; TNC.
Texas trailing phlox (Phlox nivalis ssp. texensis)	1	21	Search for new populations in East Texas	Ongoing Current	FY 1995 - FY 1999	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Research: Population Surveys	Contract	ES; TNC; BTNP.
Texas trailing phlox (Phlox nivalis ssp. texensis)	1	22	Determine the status of Phlox nivalis in Louisiana	Obsolete	FY 2007	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 4 - Atlanta	Research: General	Contract	All costs are R4 ES.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	31	Establish genetically diverse captive population	Ongoing Current	FY 2000 - FY 2004	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2, Mercer Arboretum and Botanic Gardens	Management: Propagation	Contract	MABG; CPC; SFASU; TAMU.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	32	Maintain a seed source for reintroduction efforts	Ongoing Current	FY 2000 - FY 2004	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2, Mercer Arboretum and Botanic Gardens	Management: Propagation	Contract	MABG; CPC; SFASU; TAMU.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	33	Establish monitoring & management plan for captive population	Ongoing Current	FY 2000 - FY 2004	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2, Mercer Arboretum and Botanic Gardens	Management: Propagation	Contract	MABG; CPC; SFASU; TAMU.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	34	Explore possibility of commercial production	Not Started	FY 2010	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Other: Regulations	Contract	FWS; MABG; SFASU; TAMU; other PVT.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	41	Determine soil type, slope, profile and aspect	Ongoing Current	FY 2007	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: Habitat Maintenance and Manipulation	Contract	All costs are R2 ES.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	421	Determine prevailing temperature patterns	Obsolete			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	422	Determine rainfall pattern	Obsolete			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	423	Determine regularity of climate	Obsolete			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	431	Determine type & amount of overstory	Ongoing Current	FY 2000 - FY 2004	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: Habitat Maintenance and Manipulation	Contract	All costs are R2 ES.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	432	Determine amount of understory cover	Ongoing Current	FY 2000 - FY 2004	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: Habitat Maintenance and Manipulation	Contract	All costs are R2 ES.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	433	Determine degree & composition of shrub cover	Ongoing Current	FY 2000 - FY 2004	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: Reintroduction	Contract	All costs are R2 ES.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	44	Determine extent of competition	Planned	FY 2007	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: General	Contract	All costs are R2 ES.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	45	Determine microclimate characteristics	Ongoing Current	FY 2007	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: Reintroduction	Contract	All costs are R2 ES.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Texas trailing phlox (Phlox nivalis ssp. texensis)	1	51	Determine phenology & critical life stages	Ongoing Current	FY 2000 - FY 2004	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Research: Habitat Requirements	Contract	MABG; SFASU; TAMU.
Texas trailing phlox (Phlox nivalis ssp. texensis)	1	52	Determine type & mode of pollination	Planned	FY 2008	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Research: Other Information	Contract	SFASU; TAMU; BTNP; TNC.
Texas trailing phlox (Phlox nivalis ssp. texensis)	1	53	Study seed dispersal, soil seed bank and germination	Ongoing Current	FY 2000 - FY 2004	FY 2009	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: Propagation	Contract	SFASU; TAMU; BTNP; TNC.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	531	Determine effect of timber harvest	Planned	FY 2008	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Research: General	Contract	SFASU; TAMU; PVT lands.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	532	Determine effect of cultivation	Obsolete			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	534	Determine effect of off-road vehicles use	Not Started	FY 2009	FY 2011	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: Habitat Maintenance and Manipulation, Research: Management Techniques	Contract, Graduate Student	SFASU; TAMU.
Texas trailing phlox (Phlox nivalis ssp. texensis)	1	54	Study colonization & recruitment	Ongoing Current	FY 1995 - FY 1999	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: Propagation	Contract	SFASU; TAMU; TNC; MABG
Texas trailing phlox (Phlox nivalis ssp. texensis)	1	55	Determine longevity, mortality & survival	Ongoing Current	FY 2006	FY 2010	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Research: Demographic Studies	Contract	Mercer; SFASU; TAMU
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	563	Determine effect of construction	Obsolete			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: General	Contract	SFASU; TAMU; TXDOT
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	565	Determine detect of herbivory	Planned	FY 2008	FY 2011	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Research: Predation	Contract	SFASU; TAMU; BTNP; TNC.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	566	Determine effect of herbicide use	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	All costs are R2 ES.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	567	Determine non-native species	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Research: Competition	Contract	SFASU; TAMU
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	568	Determine effect of illegal dumping	Obsolete			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	
Texas trailing phlox (Phlox nivalis ssp. texensis)	1	57	Study vegetative reproduction	Ongoing Current	FY 2000 - FY 2004	FY 2008	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: Propagation	Contract	MABG; SFASU; TAMU
Texas trailing phlox (Phlox nivalis ssp. texensis)	1	61	Investigate response to prescribed burning	Ongoing Current	FY 1995 - FY 1999	FY 2009	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: Habitat Maintenance and Manipulation, Management: Land Use, Research: Habitat Requirements, Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance, Internal Technical Assistance	ES; SFASU; TAMU; TNC; Temple-Inland; other PVT.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	62	Investigate response to mowing	Planned	FY 2008	FY 2010	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: General, Management: Habitat Maintenance and Manipulation, Research: Management Techniques	Contract, Graduate Student, Internal Field Assistance	ES; SFASU; TAMU; TNC; PVT.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	63	Investigate response to thinning of overstory	Ongoing Current	FY 2008	FY 2010	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: General, Management: Habitat Maintenance and Manipulation, Research: Habitat Requirements	Contract, Graduate Student, Internal Field Assistance	SFASU; TAMU; TNC; Temple-Inland; other PVT.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	64	Investigate response to removal of competitors	Not Started	FY 2008	FY 2010	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Management: Habitat Maintenance and Manipulation, Management: Land Use, Management: Predator and Competitor Control, Research: Competition, Research: Management Techniques	Contract, Graduate Student	SFASU; TAMU; TNC; Temple-Inland.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	7	Enforce the ESA & state endangered plant laws	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Fish and Wildlife Service, Law Enforcement Division, Texas Parks and Wildlife Department, USFWS Regional Office 2	Management: General, Other: Information and Education, Other: Law Enforcement, Other: Regulations	Internal Field Assistance	R2 ES costs = 2K/year. TPWD costs = 2K/year. LE costs = 1K/year.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	81	Determine potential reintroduction sites	Ongoing Current	FY 2000 - FY 2004	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Acquisition: Management Agreement, Management: General, Management: Reintroduction, Research: Reintroduction	Contract, Internal Field Assistance, Internal Technical Assistance	ES; BTNP; TNC; Temple-Inland.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	82	Identify landowners or agencies willing to allow introductions	Ongoing Current	FY 2000 - FY 2004	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Acquisition: Management Agreement, Management: General, Management: Habitat Maintenance and Manipulation, Research: Management Techniques, Research: Reintroduction	Contract, Internal Field Assistance	BTNP; Temple-Inland; other PVT.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	83	Design a reintroduction plan for each site	Ongoing Current	FY 2000 - FY 2004	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Acquisition: Management Agreement, Management: General, Management: Habitat Maintenance and Manipulation, Management: Land Use, Research: Reintroduction	Contract, Internal Field Assistance	ES; SFASU; TAMU; BTNP; Temple-Inland; other PVT.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	84	Monitor reintroduction sites and determine degree of success	Ongoing Current	FY 2006	FY 2011	U.S. Fish and Wildlife Service, Ecological Services Division, Private landowners, USFWS Regional Office 2	Acquisition: Management Agreement, Management: General, Management: Habitat Maintenance and Manipulation, Management: Land Use, Research: Habitat Requirements, Research: Reintroduction	Contract, Internal Field Assistance	ES; TNC; BTNP; SFASU; TAMU.
Texas trailing phlox (Phlox nivalis ssp. texensis)	2	9	Implement public education efforts	Ongoing Current	FY 2007	FY 2013	U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Fish and Wildlife Service, Law Enforcement Division, Texas Parks and Wildlife Department, USFWS Regional Office 2	Other: Information and Education, Other: Regulations	Internal Field Assistance, Internal Technical Assistance	R2 ES costs: FY1 = 4K, FY2&3 = 2K/year. TPWD = 1K/year.